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Effects of naphthalene on the viability of Mung bean (Vigna radiata L.) seed.

The annual grain loss due to seed deterioration and spoilage during production, storage and shipping of food grains was estimated as above $ 800 million. Storage losses are still higher in the tropical climates. Hence, steps have to be taken to reduce seed losses in storage. Mung bean (*Vigna radiata* L.) is the most important grain legume in Sri Lanka. The storage loss of mung bean is reduced by providing suitable storage conditions and by fumigating the seeds at regular intervals. Treatment of seed with different vegetable oils to improve storability of mung bean is effective and environmentally friendly but not a very popular practice as it is suspected to affect the quality and viability although it is known that it reduces the incidence of storage pests.

For the storage of mung bean seed on a small scale under domestic conditions, the use of various chemicals which are less toxic than the normal agrochemicals recommended need to be tested . Ethephon, Naphthalene acetic acid, Kenetin and Asprin are some of the chemicals so tested. Of these chemicals, some are not readily available in the open market. Hence, certain materials available in farm houses like chillies, margosa leaf and wood ash are being used by the farmers to treat mung bean seeds in storage.

Substances like Camphor and Naphthalene which are used as moth repellents may be potential products that need to be tested for their efficacy. The response of mung bean seeds to different rates of naphthalene balls wrapped in perforated papers was quantified in the present study as percentage change in the viability of seed. The germination tests were done in a completely randomized design. The use of naphthalene at the rate of 01 g /kg was found very effective in improving the potential viability of mung bean seed. The variance in viability noted was not statistically significant up to the end of six months of storage. Starting from the seventh month the variance continued to be statistically significant.